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CERVUS ROOSEVELTI, A NEW ELK FROM THE OLYMPICS.

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For many years naturalists have known of the presence of Elk in the Olympic Mountains and other ranges along the Pacific coast, but until recently no specimen, so far as I am aware, has found its way to any museum. When in the Olympic Mountains last August I arranged with two trappers who had established a winter camp in the deep canyon of Hoh River, at the north foot of Mt. Olympus, to secure specimens as soon as the animals had put on the winter coat. The first of these—a fine old bull with massive antlers—has now arrived and is safely installed in our National Museum.

Dr. J. G. Cooper, in his report on the Mammals of the 47th and 49th Parallels, published in 1860, states that the Elk was abundant in the dense forests of the Coast Range, and adds: "An intelligent farmer, who formerly hunted Elk in New York State, told me that he considered these a different animal, being much larger and having larger and differently formed horns."* In the same volume Geo. Gibbs states that "Judge Ford, long a settler in Washington Territory and an enthusiastic hunter, says that the Elk of the Pacific coast is not the Elk of the 'plains,' but has a *larger and coarser head.* He has been through life familiar with game and is *positive* that they are different animals."† John Keast Lord, in his '*Naturalist in Vancouver Island and British Columbia*,' published in London in 1866, says: "The Wapiti on the Oregon coast grows much larger, and differs in color from the animal found on the inland mountains." Dr. James C. Mer-

* Pacific Railroad Reports, Vol. XII, Pt. II, p. 88, 1860.

† *Ibid.*, p. 133.

rill, Major and Surgeon U. S. Army, informs me that he also has seen numerous heads and antlers of the Olympic Elk, all of which were distinguishable at a glance from the common species.

In the Oregon exhibit of the World's Columbian Exposition at Chicago, in 1893, were several mounted heads of this Elk. They were examined by Hon. Theodore Roosevelt, who told me that they differed from those of the Rocky Mountain animal in being black and in having antlers with relatively straight beams and an irregular cluster of points at the tip instead of the usual incurved terminal prong.

Mr. Roosevelt, in his entertaining '*Wilderness Hunter*,' describes the Rocky Mountain Elk or Wapiti as "not only the most stately and beautiful of American game, but also the noblest of the stag kind throughout the world;" and adds: "Whoever kills him has killed the chief of his race, for he stands far above his brethren of Asia and Europe." These remarks must now be transferred from the common Wapiti to the Pacific coast animal.

Last summer, when engaged in field-work in the Puget Sound region, I saw several heads and a few hides of this Elk, and was surprised that such a superb species had remained so long undescribed. I deem it a privilege to name this splendid animal Roosevelt's Wapiti. It is fitting that the noblest deer of America should perpetuate the name of one who, in the midst of a busy public career, has found time to study our larger mammals in their native haunts and has written the best accounts we have ever had of their habits and chase.

Cervus roosevelti sp. nov. Roosevelt's Wapiti.

Type from Mt. Elaine (on ridge between heads of Hoh, Elwah, and Soleduc rivers) near Mt. Olympus, Olympic Mts., State of Washington.

Type No. 91579, ♂ ad., U. S. Nat. Mus., Biological Survey Coll. Collected Oct. 4, 1897 by Hans and Chris Emmet.

General characters.—Size large; head and legs black (probably only in winter pelage); skull and antlers massive; beams of antlers relatively short and straight, with terminal prong aborted.

Description of type specimen (which has nearly completed the molt from fall to winter pelage).—Face from between eyes to nose-pad, sooty blackish, somewhat grizzled on cheeks with golden-brown; eyelids black, surrounded by area of pale fulvous, incomplete anteriorly; rest of head and neck brown, becoming black along median line and mixed black and reddish on top of head; back and sides a peculiar grayish brown with incomplete dusky stripe along median dorsal line; breast and belly dull reddish chestnut; legs and feet sooty black with space between hoof and

dew claws fulvous, the fulvous reaching up a short distance along median line posteriorly; fore legs abruptly black from body to hoof, with a narrow fulvous patch on inner side of forearm; hind legs and feet sooty black, the black on inner side of thigh reaching up nearly to groin, and on posterior aspect reaching nearly to rump in a band 40–50 mm. wide which curves slightly outward on each side of lower part of rump patch; rump patch pale dull buffy-fulvous, deepening between thighs to pale tan; throat grizzled black and dark golden-brown, becoming darker anteriorly, with a narrow median beard (about 30 mm. broad) of pale fulvous, beginning opposite the angle of the mouth and sharply defined anteriorly and laterally by a blackish border, spreading and fading posteriorly; chin and lower lip blackish with a sharply defined wedge-shaped mark of buffy fulvous on each side of median line, its base at anterior edge of lip, its apex directed posteriorly. Metatarsal gland (situate 160 mm. below heel on outer side) a conspicuous oval patch of reddish fulvous about 80 mm. in length, enclosing a white central stripe 35 mm. in length, and surrounded by the black of the leg and foot.

Cranial characters.—The skull of *Cervus roosevelti*, compared with that of *C. canadensis* from the Rocky Mountains, is much larger, broader and more massive. The frontals are not only conspicuously broader but are *very much flatter*, giving the cranium a different profile. The muzzle also is much broader. The cavities in front of the orbits, on the other hand, are decidedly smaller.

Measurements of type specimen.—Total length, measured in flesh, 2490 mm. (= 8 ft. 2 in.); tail in dry skin about 80 mm.; ears in dry skin: from base posteriorly 225 mm., from base of opening 208 mm.

Antlers: Spread 990 mm. (= 3 ft. 3 in.); length of left beam from burr to tip 1050 (= 41¼ in.); circumference just above burr 285 mm. (= 11¼ in.); least circumference above bez-tine 190 mm. (= 7½ in.).

Antlers.—The antlers are large, heavy and relatively short, with the terminal prongs aborted, so that the total length from burr to tip is about 500 mm. (nearly 20 inches) less than in well formed antlers of the Rocky Mountain Elk. The brow, bez, trez, and 4th tine are similar to those of the ordinary Wapiti, but above the 4th the antler is flattened and sub-palmate and ends in 2 or 3 short points the tips of which reach only slightly above the tip of the 4th prong.

Whether the aborted condition of the terminal part of the antler in Roosevelt's Wapiti is the result of long residence in the dense Pacific coast forests, where longer antlers would be inconvenient, or is indicative of closer relationship with the stags of Europe and Asia, which normally carry somewhat similar antlers, is an interesting question.

Among some black heads in a taxidermist shop in Victoria I saw one, said to have been killed on Vancouver Island, in which

the terminal prong of the antlers is much longer than usual, approaching the normal condition of the Rocky Mountain animal. But it by no means follows that the antlers in question belong to the head on which they were mounted, for many taxidermists have a reprehensible habit of grafting handsome antlers on handsome heads irrespective of zoological or geographical obstacles. During the past three months I have seen more than a dozen mounted heads of Elk, Deer, and Antelope bearing horns which the taxidermists admitted were selected from stock in hand, without reference to the heads on which they grew.

Other specimens.—In the taxidermist shop of L. F. Richolt & Co., at Centralia, Washington, I examined a very beautiful hide of a Wapiti killed in winter in Chehalis County. The color of the back and sides was a beautiful clear bluish gray, with a tint suggesting lavender, and the legs where they had been cut off were abruptly black. The amount of black on the head varies considerably in different specimens. Probably part of this variation is due to age and part to season. All of the adult winter heads were black from nose to ears, with more or less black on the neck. Some had the entire neck black, the black reaching back to the breast and nearly to the shoulders. The development of the mane seems to be much as in the Rocky Mountain Wapiti.

Geographic distribution.—Roosevelt's Wapiti inhabits the dense coniferous forests of the humid Pacific coast strip from near the northern end of Vancouver Island southward through the coast ranges of Washington and Oregon to northwestern California. In 1860, according to George Gibbs, it followed the coast "all the way down to San Francisco" (Pacific Railroad Reports, vol. XII, Pt. II, p. 133). This is a very natural distribution, corresponding with that of many other species. Through the agency of man the southern part of the range has now been cut off, but just how far I am unable to say. Mr. Charles H. Townsend, in his important '*Field Notes on the Mammals, Birds, and Reptiles of Northern California*,' published in 1887, says that the Wapiti "still exists in moderate numbers in Mendocino, Humboldt, and Trinity counties, along the upper courses of the Eel, Elk, and Trinity rivers. Two large Elk were shot in Humboldt County in December, 1885, and brought to Eureka, where I saw them."*

* Proc. U. S. National Museum, X, pp. 168–169, 1887.

But the southern limit of its range is of far less consequence than the eastern limit, for the important question is, Do or do not the ranges of the Rocky Mt. and Pacific coast Wapiti come together? Apparently they do not. Some of the old reports state that the Pacific Elk formerly inhabited the Cascade range in Washington and Oregon. But even in this case the Cascades are separated, except at the north, by the full breadth of the Great Basin and Plains of the Columbia. North of the Columbia River the forest region of the northern Cascades is practically connected with that of the Rocky Mts. by means of the timber-covered parts of southern British Columbia and the Colville Indian reservation of northern Washington. But this region, so far as I can learn, is not, and never has been, inhabited by Elk. Mr. John Fannin, Curator of the Provincial Museum at Victoria, tells me that while Elk are common on Vancouver Island they do not occur anywhere in British Columbia except along its eastern border in the Rocky Mt. region.

At the time of my visit to the Olympics the latter part of August the Elk had been recently driven out of the upper Hoh and Soleduc canyons by Indians, and the numerous tracks seen were 10 days or 2 weeks old. Well-beaten trails followed the crests of the higher ridges and traversed the principal valleys. Many of these trails, with little labor, can be made available for horses and afford almost the only means of penetrating the region.

Mr. W. A. Perry has published the following account of the way Indians kill Elk in these mountains. He says: "The principal Indian method of hunting the Elk, in the Olympic Range, is by driving them over precipices. Selecting a well-known spot, on a well-traveled Elk-trail, they will lie in wait for weeks, until a band appears coming down the mountain. The place usually selected is one where the trail curves around some great rock, just at the edge of a precipice a hundred feet or more in height. A scout, stationed high up the mountain, gives notice of the approach of a band, and then the Indians mass at the lower end of the curve, while others conceal themselves above the curve. As soon as the band passes the latter, they spring to their feet, rush down the trail, yelling and firing guns. The Indians at the lower end of the curve do the same, and the Elk, finding themselves surrounded, leap over the cliff and are crushed on the rocks below."*

*The Big Game of North America. Edited by G. O. Shields. p. 53, 1890.